

The EUCERMAT Online Teaching Programme

Functioning of Common Modules

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Section 1: Introduction to the EUCERMAT Project

The aim of the EUropean CERamic MATerials (EUCERMAT) project is to make a significant contribution to changing the general opinion about ceramic materials, across Europe.

EUCERMAT aims to do this, by:

- Implementing innovative ways of teaching ceramic science and technology in European universities.
- Linking research projects between universities and industry.
- Exploring innovative ways of communicating with the general public and high schools.

EUCERMAT is innovative as it links academia, research and industry in a knowledge triangle (see Figure 1). Students have access to industrially relevant new courses, which are not available in their own universities, and benefit from study abroad (practical labs). Students also undertake relevant applied internships (tutored projects) at renowned international companies or academic institutions and benefit from a dedicated European industrial network, which brings academic partners and companies together at regional, national, and international level.



Figure 1: The EUCERMAT Knowledge Triangle

Partners come from industry, academia and other institutions and comprise:

- Five universities
- Two research institutes
- Four companies
- One high school

- The European Ceramic Society (see Table 1)

Table 1: EUCERMAT Partners

France Universite de Limoges – Coordinator SAFRAN – International High-Technology Group	Portugal Universidade de Aveiro Porcelanas da Costa Verde SA Agrupamento de Escolas José Estevão
Germany Technische Universität Darmstadt	Ireland University of Limerick
Poland AGH - Akademia Gorniczo-Hutnicza im. Stanislawa Staszica w Krakowie	Italy ISTEC – Consiglio Nazionale Delle Ricerche SYSTEM SPA – Ceramics decoration and automation
Spain ICV – Agencia Estatal Consejo Superior de Investigaciones Cientificas Refractory Solutions INSERTEC SL	Belgium European Ceramic Society - ECerS

Section 2: Elaboration of Educational Programmes for Blended Mobility and Modules' Institutional Recognition

After extensive discussions, partners agreed to deliver four modules. Recognition of common modules differed from institution to institution.

The programme linked blended/ virtual mobility (15 hours of online study per module) with physical mobility (15 hours of on-site practical labs and optional company internships) with innovative topics that are linked directly to industrial needs. In the online modules, students from several institutions interacted with a teacher at the host institution. Teachers were provided with training in blended delivery best practice, before adapting their course materials, or creating new materials.

Teachers and students were surveyed on their experiences.

A **Manual for Blended Mobility** (Elaboration of Educational Programmes for Blended Mobility and Modules' Institutional Recognition) [is available here](#).

Section 3: Functioning of Common Modules: Terms and Conditions

In this section, we describe how students were recruited and how the common modules were managed.

Section 3.1: Recruitment of Students

It was agreed that each institution would try to use a common application procedure and that the student application form and student participant terms and conditions form, which had been conceived as separate processes, would be combined. The combined student agreement is shown in Appendix 1.

The *student application* required the following:

- Curriculum vitae or resumé
- Letter of motivation/ expression of interest
- Evidence of English language proficiency (B2 level is ideal)

Partners also agreed, for logistical simplicity, that each institution would be responsible for selecting its own students and that they would each try to recruit three or four students (maximum) per year.

The commencement schedule for recruiting students varied from institution to institution, but partners agreed a common *final* selection deadline—as all students were required to attend integration week (see Section 3.2 for details), student application and selection had to be completed by mid-September each year.

Partners agreed on the following *selection criteria*:

- Students must be in their final year of a Bachelor's degree or 1st year of a Master's degree at a host institution.
- The number of students in each participating institution would be fixed at four per institution, with a maximum of 20 students per annum on the programme.
- The level of English language proficiency would need to be B2 (or higher).
- Students would outline their motivation in the CV and letter of motivation/ expression of interest.

Ideally, partners were encouraged to promote the programme to prospective students in each university one or two years beforehand, to raise awareness among potential future students.

Section 3.2: Management of Common Modules

The EUCERMAT programme was delivered in two successive iterations in the academic years 2016/17 and 2017/18. The process and detail of the execution of the programme was refined through these iterations. A summary of the refinements is outlined below.

During the first iteration of the programme (2016/17), two modules were delivered one after the other. The schedule of the modules was within a broad window of time, and at the discretion of the host institution. However, this option meant that some students were possibly restricted from choosing their preferred modules, due to scheduling conflicts in their own institution. Consequently, to increase options for students, four partners were able to agree a common schedule (see Figure 2). In 2017/18, the online and practical lab components of each module ran in parallel with one another. However, due to conflicts with the teaching and exam schedule at the University of Limerick (UL), UL students were unable to participate.

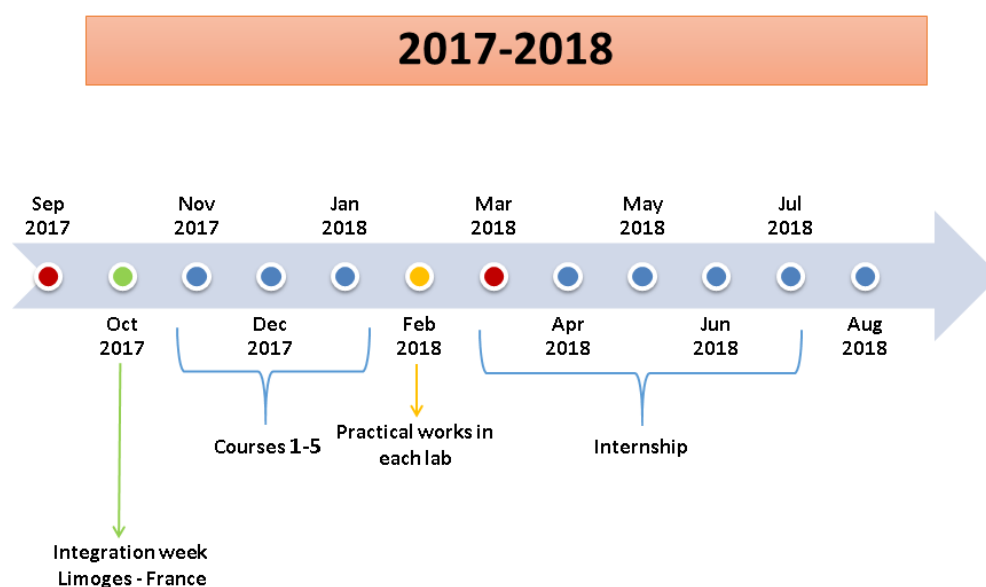


Figure 2: Revised Schedule of Student Activities (2017/18).

The *revised* EUCERMAT Masters programme comprised the following activities:

- **Integration week** was scheduled at the beginning of the academic year (between the end of October and the beginning of November) at the Université de Limoges. This schedule enabled students to:
 - Meet students from other institutions, thereby inspiring a feeling of community.
 - Gain an overview of the project structure and the master's programme.
 - Meet companies from the EUCERMAT industrial network in a physical or virtual interview.
- **E-learning/ online delivery** (the theoretical component)
 - In 2017/18, four modules were delivered online:
 - Monolithic Refractories Engineering (Krakow)
 - Additive Manufacturing (Limoges)
 - Materials for Energy (Aveiro)
 - Ceramic Materials: Synthesis and Properties (Darmstadt)
 - The modules each ran for three weeks on the Moodle platform, just after integration week. The innovative delivery of online modules enabled students to follow courses designed and delivered by recognised teachers from other institutions.
- **Practical labs** (the practical component)
 - In 2017/18, the practical labs took place over one week at the beginning of the second semester (end of January to beginning of February).
 - The practical labs enabled students to apply theory in on-site labs, while being tutored by recognised teachers from other institutions.
- **Tutored project:**
 - At the end of the 2017/18 academic year, students had the option of spending from three to six months in a foreign company.
 - Participation in tutored projects was not mandatory.
 - In 2016/17, 20 research topics were suggested by 14 companies, which resulted in nine internships in eight companies.
 - In 2017/18, 14 research topics were suggested by nine companies, which resulted in seven internships in six companies.
 - [Click here](#) to read more about the tutored projects.

Section 4: Recognition of Common Modules

Because the selected teaching units were different, and shorter, than the regular programmes at each institution, each institution had to ensure that the new teaching unit (both the theoretical and practical components) equated to three or four ECTS.

To make each teaching unit official and valid for inclusion in the EUCERMAT curriculum, each academic institution also had to investigate ways to recognise the teaching unit it is own institution and to consider how it could potentially be integrated into a new Master's curriculum, bearing in mind appropriate institutional procedures.

Recognition requirements differed from institution to institution.

Students who successfully completed each of the following components, were awarded the EUCERMAT certificate:

- Integration week
- One or more e-learning teaching units (both the theoretical and practical components)
- Internship(s) in a company or laboratory

[Click here](#) to read more about EUCERMAT certification.

Section 5: Students' Evaluation of the Programme

After the second iteration of the programme, we asked students about their experiences. Appendix 2 contains the survey that was sent to each student. We received response from ten students. The remainder of this section outlines key feedback for each of the following categories, by merging feedback about the four teaching units:

- General Interest in the Topic
- Content
- Organization
- Practical Labs

Section 5.1: General Interest in the Topic

Before starting the course, when asked about their **level of interest in the topic**, 8/10 students said they were interested or very interested. One student had no interest at all in the subject beforehand, but was interested (or very interested) *after* taking the teaching unit. Another student had average interest beforehand, but was interested afterwards.

When asked if they wished to **learn more about the topic in future**, there were mixed responses depending on the teaching units and students' personal interests. For example, one student said 'at the present time, no because I don't intended to [do] this type of application' but another said 'Yes, I would like to learn more about preparing materials to apply them in AM methodology'.

Section 5.2: Content

In terms of how the **work plan for each teaching unit** was presented (calendar, objectives, prerequisites, clarity of instructions, clarity of the Moodle page, etc.), 9/10 students said the content was clear or very clear. One student said the content in one teaching unit was very unclear.

In terms of **resources** provided by teachers to help students learn, all the students said that the materials were sufficient (or very sufficient).

In terms of **workload**, 9/10 students said the workload was appropriate. One student said the workload in one teaching unit was too high.

In terms of the **difficulty** of the teaching unit, 8/10 students said the level was medium (average), and two said the level was difficult; in the latter cases, the difficulty related to the same teaching unit.

Section 5.3: Organization

Students spent vastly different **time studying** different teaching units. In one teaching unit, two students said they spent 20-25 hours studying, but the other three teaching units required from 2 to 10 hours.

Only three of the ten students **communicated with their teacher** during the teaching unit—these students communicated using either the forum or email. When asked to elaborate what they discussed with the teacher, responses included ‘Questions about the course, misunderstood points’ and ‘About reading... and later some question about the report and or calculations’.

Eight of the ten students found their teachers to be satisfying or very satisfying in terms of **availability and reaction** to their queries. Two students said their teachers were not really satisfying, but this feedback related to two different teaching units.

When they were asked if it would have been better to have **synchronous meetings** with the teachers through videoconference tools, how often, when, and for how long, responses were varied. For example, one student said it would have been helpful to have a ‘meeting by course chapter. It’s simpler and more direc[t] to ask questions’. Another student he/ she would have liked a synchronous meeting ‘once a week for ½ hour, just to explain some parts of the lesson’. That said, at least two students said it could be difficult to find a time when everyone would be available. A few students said they would prefer to have these meetings in the evenings or at the weekends. Two students did not see the need for synchronous meetings, saying ‘The way how it was performed was good so I don’t see a need to have synchronous meetings’ and ‘...the practical labs started with our teacher giving us a brief overview of all the lessons, explaining all the difficult bits and answering our questions, which substituted well [for] the potential video lessons’.

Seven of the ten students **communicated with other students**, using either face-to-face communication, private message, or Facebook. Interestingly, in one teaching unit, none of the three students communicated with one another.

When asked to give some general feedback on the **strengths and weaknesses of each teaching unit**, and how they might be improved, students offered some interesting suggestions including:

‘It would encourage students to share their thoughts and discuss the lessons via [the] Moodle platform if the teacher started the discussion himself (even just by asking students if there are any bits that need further explaining—that way they would feel more engaged)’. Interestingly, a similar point was made for another teaching unit (but this comment was *possibly* made by the same student).

Section 5.4: Practical Labs

When asked what they thought about the **duration of the practical labs**, one student said they were a bit too short, two said they were a bit too long, and the remaining seven students said they were appropriate lengths.

In terms of the **organization of the practicals** (schedule in the academic year, implication of the practicals, etc.), one student said he/ she would have liked to have known the date of the practical labs earlier because it had implications for the timing of his company placement. Another student said ‘The practical labs was a little too late after [the] end of the lessons on the platform’. One student found that sometimes he/ she spent more hours in the lab than was originally scheduled, but then had to attend less (hours) on the last day.

One student found the **labs particularly helpful**, saying ‘[d]uring practical labs we had enough time to get familiar with basic skills and knowledge. We were doing tasks with the teacher during which we learned how we can proceed and then we had also time to create things by ourself[ves], to be creative’.

Another student specifically **complimented some of the teachers**, saying the teacher ‘had a great idea on how to run the practical labs, allowing us not only to learn a lot about additive manufacturing, but also to simply have a lot of fun – and there is no better way to learn than through fun’. This same student said he/ she was ‘definitely going to recommend’ EUCERMAT to other students next year.

In terms of **difficulty level**, nine out of ten students found the practicals easy or medium, with only one student reporting that they were difficult.

When asked if they thought the **topic of the practicals** matched the topic of the online courses, seven of the ten students said they matched perfectly; the other three students said they matched well.

When asked if the **practicals matched their expectations**, students were largely positive. For example one student said ‘Yes, it was very interesting and it helped to better understand some aspect of the courses’. Another student said ‘they have even exceeded my expectations :)’. As the practicals were optional for students taking additional modules, some students did not participate in the practical labs and therefore could not comment on them.

Finally, when asked if the topic was **available in their own institution**, several students reported that they studied topics they could not otherwise have studied. One student said ‘This subject seemed to me a little new for me because it’s an aspect of ceramic materials that we do not deal with in

Limoges'. Another student said 'Yes it is. We don't have any course about refractories in Limoges, all was new and it was interesting to be working on'. A third student said 'At my university additive manufacturing is not a well-known topic. That is why these classes have allowed me to develop my knowledge and skills in an area that I knew very little about before'. Another student also commented that a course on additive manufacturing 'would be even difficult to organize, since we lack equipment'.

Section 6: Sustainability of the Programme

In the short-term, the partners have agreed to continue their involvement in the EUCERMAT programme. However, they also noted that the functioning of the programme could be subject to change—for example, it is likely that the main contact in each partner institution might change from year to year. Furthermore, due to incompatibility with the University of Limerick (UL) academic calendar, UL students will not be able to participate in the Master's programme.

Over the past three years, EUCERMAT has developed several initiatives and strategies that could be used on an ongoing basis. In particular, partners have noted that:

- The use of the **e-learning platform** (Moodle) is sustainable in the long-term.
- The **general organisation and schedule** of activities (e.g. the online teaching units and practical labs) over the course of each year is workable for four of the academic partners.
- The **online teaching units** (theoretical component) can be updated and improved each year, with input from the relevant academic partners, *provided* a suitable teacher can be identified, he/ she can integrate this additional teaching into his/ her workload, and there are sufficient funds available.
- The **practical labs** can be funded by each academic institution, with each institution funding its own students.
- The **student agreement** can be deployed in future years.

It will not be possible to sustain **integration week** moving forward; however, interviews with companies can be organised remotely between companies and students.

As regards the **tutored projects**, these internships could be funded using Erasmus+ internship grants, with the Université de Limoges and the ISTE C Institute of Faenza supporting this aspect of the programme. Each year, firms could propose topics and these could be listed on the EUCERMAT website, so students can review them.

In the medium term, partners will explore the possibility of incorporating other universities, research institutes, and companies.

Section 7: Conclusions

To conclude, the following aspects of the programme were particularly effective:

- Many students had opportunities to study topics they would not otherwise be able to study at their own institution, via innovative online methods.
- Some students developed a newfound interest for topics they were not previously interested in (or had no previous exposure to).
- The majority of students found the content in the teaching units to be clear and the online resources appropriate to their needs.
- The workload was manageable for the majority of students and the difficulty level was medium (average).
- Students found the practical labs to be useful and relevant.

There are also some areas where improvements could be made, moving forward:

- The study time varied significantly across teaching units.
- There was minimum communication with teachers on some teaching units. Some students said they would like to have synchronous meetings/ chat in the evenings or at weekends; however, this would not be sustainable.
- Some students said that teachers could have initiated more discussions to encourage more interaction among students.
- Some students said they would like advanced notification of the date of the practicals, so they could plan accordingly.

On a long-term scale, it is essential that all teachers undertake training in online delivery before delivering their teaching unit. While training was provided early in the EUCERMAT programme, some teachers did not/ could not attend the training.

Appendix 1: Student Agreement



Master programme 2017-2018

Student agreement



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European CERamic MATerials (EUCERMAT) is a transnational collaborative project, cofounded by the Erasmus+ programme of the European Union, aimed at sharing, developing and transferring innovative practices in the ceramic and materials education field, while producing a strong synergy among the leading European universities and ceramic industries.

The project develops innovative learning methods to educate students into the field of innovative ceramic materials and ceramic technology and produce qualified researchers able to drive the industrial innovation in this field.

The project offers high-level international training courses in the field of the science of ceramic materials and processing. Five European universities and around ten industries are involved, covering most of the ceramic industrial applications.

The **EUCERMAT Master Student activities** include:

- Integration week
- Blended mobility : 15h of e-learning teaching + 15h of practical labs
- Internships at companies belonging to the EUCERMAT Industrial Network

I. Scope

This agreement defines the role, rights and duties of the parties directly involved in ensuring the successful participation of the student indicated below in the EUCERMAT Master program.

This agreement is composed by four sections aimed to keep track of the student application and of his/her participation in the specific EUCERMAT activities: e-learning modules, practical labs and company internship.

Section II represents the student application to EUCERMAT program. It contains the student personal data and the required supporting documents. Filling in and signing section II, the student applies to participate to EUCERMAT project and declares his/her will to take part in the specific EUCERMAT activities.

Section III is dedicated to the Master program in blended mobility. The Section A collects the master program data: the general information as well as the duties of the parties. The section it is signed by the 3 parts (student, home university supervisor, host university supervisor). The Section B is the e-learning certificate which is signed by the host university supervisor after the end of the blended mobility.

Section IV is dedicated to the Master Thesis internship.

The section A collects the master thesis internship data. It is filled in when a definitive agreement is reached between the parts (host Company, home university and student). It is signed by the student and the three supervisors. The signature procedure is established at paragraph §11. Formalization.

The section B represents the Internship certificate and is filled by the Home University supervisor after the end of the internship.



TECHNISCHE
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istec



UNIVERSITY of LIMERICK
GALLICOLL LIMERICK



Université
de Limoges

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II. Student application to EUCERMAT program

A. Personal data

1	University	
2	Name and surname	
3	Date of Birth	
4	Place of Birth	
5	Sex	Female <input type="checkbox"/> Male <input type="checkbox"/>
6	Nationality	
7	E-mail address	
8	Phone number	
9	Skype identification	
10	Address for correspondence	
11	University's address	
12	Field of study	
13	Speciality of study	
14	Average (weighted ECTS points) of grades gained during first level of study	My average grade at first level of study is
15	Average (weighted ECTS) of grades gained during second level of study	My average grade at second level of study is

Please provide a copy of your ID card (if EU citizen) or Passport.

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B. Declaration of participation in EUCERMAT project

1	I declare my will to participate in EUCERMAT project	Yes, I do	No, I don't
2	I will submit my motivation letter for industrial partners of EUCERMAT project by 03/10/2017	Yes, I will	No, I won't
3	I will take part in "Integration Week" on 23-27 October 2017 in Limoges, France.	Yes, I will	No, I won't
4	I will take part in at least one e-learning module (3 ECTS credits each) from 6 to 24/11/2017 and in the corresponding practical lab from 26/02 to 02/03/2018.	Yes, I will	No, I won't
5	I will do an internship in a company of the EUCERMAT industrial network from March to August 2018 (minimum 3 and maximum 6 months).	Yes, I will	No, I won't

C. Statements

1	I understand that some industrial partners of the project don't offer a scholarship for the internship. I understand that I am able to apply for scholarship from Erasmus+ programme at my university.	Yes, I do	No, I don't
2	I understand that not all my expenses/costs of participation in the project will be financed by the EUCERMAT project. I accept partial self-financing.	Yes, I do	No, I don't
3	I accept that all correspondence will be sent by e-mail.	Yes, I do	No, I don't

D. Bank account data

1	Name of the bank	
2	Name of beneficiary of the bank account	
3	Address of the bank	
4	IBAN (International Bank Account Number)	
5	BIC (Bank Identifier Code)	

Please provide an official document from the Bank including all the previous data.

E. Master thesis: company wish-list

<i>Please, rank at least 5 companies in order of preference, 1 being the highest and 5 the lowest.</i>	
1	
2	
3	
4	
5	

Please provide your Curriculum Vitae (English version)

F. Supporting documents

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1	At the beginning of the academic year and before the 02/10/2017, I will provide (by e-mail) to the project manager the following documents : <ul style="list-style-type: none"> - The present application fulfilled (Word version). - The present application fulfilled, dated and signed (PDF version). - A copy of my ID Card/Passport - A copy of my bank account data - A CV in English 	<i>Yes, I will</i>	<i>No, I won't</i>
2	During the integration week, I will provide to the project manager the original version of the present application fulfilled, dated and signed.	<i>Yes, I will</i>	<i>No, I won't</i>
3	After each physical mobility (Integration Week and Practical labs): I will send to the project manager the following supporting documents : <ul style="list-style-type: none"> - The original boarding pass/train tickets - The tickets and receipts of each additional costs of travel (only travel days) I understand that I have to send these documents by post mail to the following address : Claire Chasseau Université de Limoges Pôle International Campus des Jacobins 88 rue du Pont Saint Martial 87000 Limoges France	<i>Yes, I will</i>	<i>No, I won't</i>
4	During the travel day during each physical mobility, I declare to take the taxi only if the distance or the time is justifying the use of the means of transport. An unreasonable expenditure will be not reimbursed.	<i>Yes, I do</i>	<i>No, I don't</i>

Date

Signature

If you have any questions, please contact the project manager:

- E-mail address: eucermat@unilim.fr
- Phone number: +33 5 55 14 92 65

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III. Blended mobility : E-learning and practical labs

A. GENERAL INFORMATION

1. Blended mobility

Blended mobility is a mix between physical mobility, abroad, and virtual mobility, thanks to on line courses. This modern way of teaching permits students both to have access to new courses, unavailable in their own universities, and to benefit from an international experience, thanks to the physical mobility.

Following this principal, EUCERMAT gives to the selected students the opportunity to attend blended mobility modules including online courses (e-learning) supplemented by laboratory practical work. To reach this objective, the five European universities of the EUCERMAT project work together offering a meaningful and unique learning experience for students through high level international training courses in the field of the science of ceramic materials and processing.

For the academic year 2017/2018 the student will follow one of the 5 different on-line modules, and to validate the corresponding ECTS, they will have to choose one practical, delivered in situ, by the University responsible for the on-line corresponding teaching. The courses will be hosted on a Moodle platform that will be used as the virtual learning environment. For this purpose it will be created, at the beginning of the academic year, a personal account for each student giving him/her the free access to the dedicated platform.

Schedule

By taking part to EUCERMAT blended mobility programme, the student shall participate and respect the following schedule:

- Integration week : 23-27/10/2017 - Limoges (FR) – *Physical mobility*
- E-learning teaching unit on the Moodle platform: 06-24/11/2017 – *Virtual mobility*
- The corresponding practical lab in the host university: 26/02-02/03/2018 – *Physical mobility*

Regarding the physical mobility, the student has to stay 5 days on site, the travel plan will be organised accordingly (count 2 additional days for the travel).

Academic recognition in the Master curricula

The teaching unit in blended mobility will be recognized in the student's Master curricula, according the home university internal recognition rules.

By following one on-line module and the corresponding practical laboratory delivered in situ by the university responsible of the module, the student will be able to validate the corresponding [X] ECTS.

Topic of the teaching unit

The student has to follow one teaching unit offered by a foreign university within the following list: *(Please check the option check box above)*

- ☐ Monolithic refractories engineering - AGH Krakow (PL)
- ☐ Ceramic Materials: Syntheses and Properties – Technische Universität Darmstadt (DE)
- ☐ Material for energy - Universidade de Aveiro (PT)
- ☐ Additive Manufacturing (AM) as a new value chain for development of EU industry - Université de Limoges (FR)

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The student has to follow the practical laboratory corresponding to the selected teaching unit.

Co-funding of the blended mobility

The blended mobility is co-funded by the EUCERMAT project, thanks to the co-funding of the Erasmus+ programme.

During the physical mobility (i.e. integration week and practical laboratory) the travel and accommodation costs will be covered by the project. The train/plane tickets and the accommodation will be directly booked by the project manager and/or the host university and it will be free of charge for the student. The student might pay some additional costs of travel during the travel days, as train/bus, which will be reimbursed after the mobility by the project manager. Except potential meals or dinners offered by the host institution, the subsistence is directly covered by the student, it will not be covered or reimbursed by the project.

2. Duties of the parties

Duties of Home University Supervisor

The academic supervisor from the home university is responsible for informing the student about the EUCERMAT Master programme.

The academic supervisor shall ensure that the candidate is in the best possible situation to complete his/her study program according to the foreseen plan (recognition of the corresponding ECTS within the Master curricula, availability of the students during each EUCERMAT activity, etc.).

Duties of Host University Supervisor

The academic supervisor is responsible for informing the student of the precise academic calendar, in particular on the examination periods, and the grading system used to assess the student's performance. He/she will also inform the student at the beginning of the academic year of the nature of the exams/tests and forward the final grade of the student to the project coordination team and the home university supervisor.

Duties of student

The student shall participate to the e-learning teaching unit and the corresponding practical laboratory organized by the hosting university.

The student shall complete all required exams/tests given by the host university supervisor.

The student is required to inform and justify both the home and the host supervisors in case he/she is not in a position to attend the foreseen activities and will be required to make up any missed obligations.

More generally, the student shall keep the supervisor informed about possible difficulties he/she might encounter. In case of an individual problem, the board of the consortium will try to find the best solutions to solve it. The student commits him/herself to fill in the evaluation questionnaire.

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The Student

.....
(name)

.....
(signature)

Date

The Home University Supervisor

.....
(name)

.....
(signature)

Date

The Host University supervisor

.....
(name)

.....
(signature)

Date

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B. E-LEARNING CERTIFICATE

At: Date

I certify that Mr/Ms. [student's name] has successfully completed the teaching unit course by following the e-learning course in the period from 06/11/2017 to 24/11/2017 and by attending to the practical labs in the period from 26/02/2018 to 02/03/2018.

[Name of the university]

[Name of the professor]

Signature + stamp

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IV. Master Thesis internship

A. GENERAL INFORMATION

3. Subject

The student has determined the subject of his/her master thesis after discussion with his/her home University supervisor and the company's supervisor. The thesis shall be written in English and can contain an executive summary in other languages.

Master thesis subject:	<p>.....</p> <p>.....</p> <p>.....</p> <p><i>(Describe as precisely as possible the project framework, the objectives of the work and which resources will be necessary to reach these objectives.)</i></p>
-------------------------------	---

4. Master thesis defense

The thesis defense will take place at the home University. The defense will comply with local rules. The result of the defense will be recognized by the degree awarding institution.

5. Company internship

The internship will start on (date) and end on (date).
The host company will be (company name)
The internship location will be (address)

6. Supervisors

The student will be supervised by the academic supervisor at his/her home University for the duration of the Master Thesis and by the company supervisor at his/her host company and the local active cell supervisor while implementing the internship. The supervisors are identified below:

Organisation	Supervisor (first name – surname)
Home University:	
Host Company:	
Local active cell:	

7. Duties of the parties

Duties of Home University Supervisor

The home university supervisor will be responsible for monitoring the student progress and informing the EUCERMAT coordinator about possible problems that might arise.

The home university supervisor commits himself/herself to fill in the evaluation questionnaire.

Duties of Company Supervisor

The company supervisor ensures that the student is in the best possible situation to complete his/her master thesis program according to the foreseen plan. The company supervisor gives the student a workplace and an inside view on the activities and the overall functioning of the company and ensures that the student has sufficient time and resources to work on his/her master thesis. The company supervisor will be responsible for monitoring the student progress and informing the academic supervisor about possible problems that might arise.

The company supervisor commits himself/herself to fill in the evaluation questionnaire.

Duties of Local Active Cell Supervisor

The local active cell supervisor monitors the student work and check that the master thesis program is developed according to the foreseen plan. The local active cell supervisor is responsible for informing the EUCERMAT coordinator about problems that might arise.

The local active cell supervisor commits him/herself

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- a) To deliver a progress report on the internship implementation (see point 6);
- b) To fill in the evaluation questionnaire.

Duties of the student

The student will refer to the company supervisor for all practical, technical or regulation matters which will be necessary for the smooth running of the internship. The student is required to inform and justify the company supervisor in case he/she is not in a position to attend the foreseen activities. More generally, the student shall keep his/her company supervisor informed about possible difficulties he/she might encounter. Any difficulties encountered in the execution and progress of the internship whether observed by the student or by the company supervisor, must be brought to the attention of the home university supervisor and the local active cell supervisor so that the issue can be resolved as quickly as possible.

The student will also adhere to those terms and conditions regarding intellectual property such as may be determined by the home university and any relevant agreement that university may have with the company

Once the internship has ended, the student commits him/herself to fill in the evaluation questionnaire, in which he will evaluate the quality of the reception he was given by the company. This document will not be taken into consideration in his evaluation, or in awarding his diploma or certificate.

8. Supervisory procedures (visits, scheduled telephone calls, etc.):

A progress meeting among the student and all his/her supervisors will be held halfway through the internship. The meeting may be attended by videoconference, if convenient. The local active cell supervisor writes and submit to the EUCERMAT coordinator the meeting summary.

9. Intellectual Property

The results of the student's work belong to their author and will thus be protected by intellectual property law.

In accordance with the code of intellectual property, if the student's activities result in the creation of a work protected by copyright or industrial property (including software), and the Company wishes to make use of such work with the authors approval, a contract must be signed between the authors and the Company.

In each work/thesis document, the student should acknowledge in writing the EUCERMAT program by using the following sentence:

"I would like to express my gratitude to the EUCERMAT project, which supports the cooperation between EU higher education institutions, industries and research organisations working in the field of ceramics, for the opportunity to carry out my thesis work at (Company name)".

10. Confidentiality

The duty of confidentiality must at all times be observed, with its specific aspects taken into account by the company. The student commits to refrain from using the information collected or obtained by him, under any circumstances, for purposes of publication or disclosure to third parties without prior consent of the company, including in the master thesis.

Those pieces of information are not considered confidential when they are already public knowledge, when the student can prove that they were in his/her possession before their publication by the company, or when the student obtained these pieces of information from a third party free of any confidentiality agreement with the company.

This commitment applies not only to the internship period but shall extend after its conclusion as well. The student commits to not retain, remove, or copy any documents or software of any kind belonging to the company, except upon prior approval from the latter.

11. Financial issues

The flagged option is applied:

- ☐ It is understood that the internship does not entail any payment to the student, but the company agrees to cover part of the student's travel and living expenses as follows:

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- Participation to the accommodation for ...€/month
- Travelling expenses for ...€
- Etc.

or

- ☐ It is understood that the internship entails a payment of ...€/month.

12. Modification, mediation and cancellation

It is the signatories' responsibility to inform in writing the EUCERMAT coordinator of any changes this agreement may need.

In the event of minor changes to this agreement, an amendment may be proposed by the party concerned and incorporated to the agreement as an annex signed by all parties.

Any breach of contract by the student may lead to the cancellation of this agreement.

Any conflict among the parties signing this agreement should be brought to the attention of the EUCERMAT coordinator, who shall seek the best way to resolve it in collaboration with the EUCERMAT steering committee.

13. Formalisation

The home university supervisor is responsible for the formalization of this agreement before the student's departure. In term of procedure:

- a) At the home university, the agreement is signed by the student and the home university supervisor.
- b) The home university supervisor send the signed agreement to the local active cell supervisor.
- c) The local active cell supervisor signs the agreement and send it to the company.
- d) Upon arrival at the company, the agreement is signed by the company supervisor and returned to the local active cell.
- e) Upon signature, this will be forwarded to the EUCERMAT coordinator.
- f) The EUCERMAT coordinator sends a copy of the agreement to each party.

The Student

.....
(name)

.....
(signature)

Date

The Home University Supervisor

.....
(name)

.....
(signature)

Date

The Company Supervisor

.....
(name)

.....
(signature)

Date

The Local Active Cell Supervisor

.....
(name)

.....
(signature)

Date

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B. COMPANY INTERNSHIP CERTIFICATE

Date

I certify that Mr/Ms. has successfully completed the
internship at (*company name, address, country*)

in the period from (*date*) to (*date*)

working on his/her master's degree thesis on (*master thesis
subject*).

University of

Prof.

Signature



Appendix 2: Student Evaluation Survey

About e-learning

General interest

1 * **How would you rate your interest in the field taught in this teaching unit, before starting the course?**
Rate it from 1 (no interest at all) to 4 (very interested).

- ☐ 1 ☐ 2 ☐ 3 ☐ 4

2 * **How would you rate your interest in the field taught in this teaching unit, after the end of the course?**
Rate it from 1 (no interest at all) to 4 (very interested).

- ☐ 1 ☐ 2 ☐ 3 ☐ 4

3 * **Do you want to learn more about this topic? Please specify.**

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Content

4 * **In your opinion, is the work plan of this teaching unit clearly presented (calendar, objectives, prerequisites, clarity of the instructions, clarity of the Moodle page, etc.)?**

- ☐ Very unclear
☐ Unclear
☐ Clear
☐ Very clear

5 * **In your opinion, are the resources provided by the pedagogical staff sufficient in order to understand the theory to be acquired in this teaching unit?**

- ☐ Not sufficient at all
☐ Not sufficient
☐ Enough sufficient
☐ Perfectly sufficient

6 * **How do you judge the workload required for this teaching unit?**

- ☐ The workload is really too important
☐ The workload is well adapted
☐ The workload is really low

7 * **What do you think about the difficulty of this teaching unit?**

- ☐ Very difficult
☐ Difficult
☐ Medium
☐ Easy
☐ Very easy

Organization

8 * How many hours did you spend working on this teaching unit on the Moodle platform?

9 * Did you communicate with the teacher during this teaching unit?

- ☐ Yes ☐ No

10 If yes, through which channels ?

- ☐ Forum
- ☐ Mail
- ☐ Private message
- ☐ Other:

11 If yes, what for? What did you talk about?

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12 * How was the teacher’s availability and reactivity?

- ☐ Not satisfying at all
- ☐ Not really satisfying
- ☐ Satisfying
- ☐ Very satisfying

13 * Would it have been better to have synchronous meetings with the teachers through visioconference tools?

How often?

When?

For how long?

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14 * Did you communicate with the other students about this teaching unit?

- ☐ Yes ☐ No

15 Through which channels?

Remarks

16 Do you have any comment or remark (suggestion, strengths & weaknesses, etc.) concerning this teaching unit?

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About practical labs

17 * What do you think about the practical work’s duration?

- ☐ Too long
- ☐ A bit too long
- ☐ Good
- ☐ A bit too short
- ☐ Too shoot

18 * What do you think about the practical work’s organization (scheduling of the practical in the academic year, time of manipulation, implication in the practical work, etc)?

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19 * What do you think about the difficulty of this practical work?

- ☐ Very difficult
- ☐ Difficult
- ☐ Medium
- ☐ Easy
- ☐ Very easy

20 * Does the practical work’s topic match the teaching unit’s course?
Rank it from 1 (it doesn’t match at all) to 4 (it matches perfectly).

21* Did the practical labs reach your expectations?

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22* Is this teaching an original topic regarding the skills of your own university? Please explain in a few words.

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